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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/601,085

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Mukesh K. Jain

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EXAMINER

MATZEK, MATTHEW D

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/601,085	Applicant(s) JAIN ET AL.	
	Examiner Matthew D. Matzek	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment and Arguments

1. The amendment dated 3/13/2006 has been fully considered and entered into the Record.

The previously applied prior art rejections have been withdrawn as the applied art failed to teach the use of sulfonated aromatic polymers having a portion of the aromatic groups comprised of pendent sulfonic acid groups, or its salts. Claims 1-65 are currently active.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-65 are rejected under 35 U.S.C. 103(a) as obvious over Maples (US 6,395,383) in view of Kershner et al. (US 4,824,916).

a. Maples discloses a selectively permeable protective covering capable of transmitting high quantities of water vapor while also being capable of significantly restricting the passage of dangerous chemicals (Abstract). This invention is directed to use as a protective garment or associated accessories (Abstract). In an embodiment of this invention the chemical protective covering comprises two water vapor permeable open pore polytetrafluoroethylene (PTFE) substrates and a polyamine polymer with amine-acid moieties specifically involving H₂SO₄ (col. 4, lines 57-65). The open pore substrates may be woven, nonwoven or knit fabrics (col. 7, lines 38-40). The third open pore substrate may also be made of polyethylene, polysulfone, polypropylene,

polyamides, and the like (col. 7, lines 37-45). The acidic species of the polyamine polymer amine-acid moieties are preferably multiprotic and may include sulfuric and sulfurous acid (col. 9, lines 5-20). The acidic species may also be covalently bound within the polyamine polymer (col. 9, lines 12-16). The polyamine polymer will be made to form a selectively permeable sheet or layer, which in some embodiments, may be part of a composite sheet with at least one water vapor permeable substrate (col. 10, lines 12-15). A laminate construction of the applied invention is depicted in Figure 19. The applied article has a water vapor transmission rate greater than $2000 \text{ g}/(\text{m}^2 \cdot \text{day})$ (col. 4, lines 40-44). Maples is silent as to the use of aromatic sulfonated polymers in the creation of a waterproof protective article.

b. Kershner et al. teach the use of water-insoluble, cross-linked sulfonated aromatic polyamides to create a coating (Title and Abstract). The applied invention may be used to create membranes for gas separation and solvent dehydration (col. 2, lines 65-67). The sulfonated aromatic polyamides of Kershner et al. have pendant groups comprising sulfonic acid groups in anionic form (col. 6, lines 36-43). The ionically cross-linked polymer have special utility as a water resistant coating (col. 9, lines 26-31) and may be laminated to a porous substrate (col. 10, lines 50-55). This applied patent fails to teach the instantly claimed sulfonic acid equivalent weight. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the sulfonated aromatic polymer of Kershner et al. with the instantly claimed sulfonic acid equivalent weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges

involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have also been obvious to have discovered the instantly claimed sulfonic acid equivalent weights as the Kershner et al. and Applicant use the sulfonated aromatic polymeric layer to impart water resistance while being vapor permeable (pages 4 and 5 of Applicant's Specification).

c. Since Maples and Kershner et al. are from the same field of endeavor, (i.e. selectively permeable articles), the purpose disclosed by Kershner et al. would have been recognized in the pertinent art of Maples.

d. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the third layer (polysulfone) of Maples' article with the water-insoluble, cross-linked sulfonated aromatic polyamide of Kershner et al. in order to create make the protective article of Kershner et al. waterproof.

e. Claims 2-4, 30, 31, 54 and 55 are rejected as the invention of the applied patent may be used as blankets, tents, sleeping bags, sacks, footwear, gloves, garments and the like ('383 col. 6, lines 29-32).

f. Claims 5 and 27 are rejected as the '383 invention allows for the incorporation of additional layers to the protective covering article including various textiles, felts, films, membranes, scrim, leathers and the like (col. 12, lines 4-10).

g. Claims 6 and 29 are rejected as fabric laminate may comprise multiple layers of polyamide, cellulosic, polyester, and polyurethane ('383 col. 7, lines 37-62). Figure 19 of the '383 patent demonstrates the use of multiple layers of fabric (col. 12, lines 24-28).

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- h. The sulfonated aromatic polymer is a polyamide. Claims 16 and 17 are rejected as the aromatic polymer has linkages from ketones (col. 3, lines 15-20) and have aryl substitutions (claim 1 '916).
- i. Claims 9 and 10 are rejected as the sulfonated aromatic polyamide of '916 is ionically cross-linked (Abstract).
- j. Claims 12 and 13 are rejected as the invention of Kershner et al. may be laminated to a porous substrate (col. 10, lines 50-55), which would cause the sulfonated aromatic polymer to reside partially within the substrate.
- k. Claims 18 and 19 are rejected as the sulfonated aromatic polyamide of '916 is ionically cross-linked. Claim 20 is rejected as the polyamine polymer layer may also contain cross-linking agents, acidic species and/or additional processing and performance aids (col. 10, lines 40-45).
- l. Claims 21 and 36 are rejected as the polyamine polymer will be made to form a selectively permeable sheet or layer, which in some embodiments, may be part of a composite sheet with at least one water vapor permeable substrate ('383 col. 10, lines 12-15). The '383 patent teaches the polyamine polymer composite sheet with open pore expanded PTFE substrates ('383 claim 10). Claim 22 is rejected.
- m. Claims 28, 40, 44 and 64 are rejected as laminate arrangements may consist of arrangements of polyimide layers combined with one or more additional fabric layers ('383 col. 12, lines 44-48).
- n. Claims 37-39 and 60-63 are rejected as the polyimide polymer may be made to imbibe into a substrate or substrates such that the polymer fills the voids within a

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substrate either wholly or partially ('383 col. 11, lines 55-63). The applied patent teaches the polyimide polymer composite sheet with open pore expanded PTFE substrates ('383 claim 10).

o. Although Maples nor Kershner et la. explicitly teach the claimed bis-2-chloroethyl sulfide or pinacolyl methylphosphono fluoridate permeability over a 20-hour period, it is reasonable to presume that said properties are inherent to their combined product. Support for said presumption is found in the use of like materials (i.e. chemical protective coverings made of aromatic sulfonated polymers). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties would obviously have been present one the combined article of Maples and Kershner is provided. Note *In re Best*, 195 USPQ at 433, footnote (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. Claims 1-65 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16, 18-47 and 49-51 of copending Application No. 10/818,214. Although the conflicting claims are not identical, they are not patentably distinct from each other because both articles are directed to protective composites made of aromatic sulfonated polymers.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mdm



NORCATORRES
PRIMARY EXAMINER